US010472869B2

(12) **United States Patent**
Fannon et al.

(10) **Patent No.: US 10,472,869 B2**
(45) **Date of Patent: Nov. 12, 2019**

(54) **POWERED LATCH MECHANISM WITH MANUAL RELEASE**

(71) Applicant: **STRATTEC SECURITY CORPORATION**, Milwaukee, WI (US)

(72) Inventors: **Joseph P. Fannon**, Washington, MI (US); **Ian Martin**, Waterford, MI (US)

(73) Assignee: **STRATTEC SECURITY CORPORATION**, Milwaukee, WI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 657 days.

(21) Appl. No.: **15/068,223**

(22) Filed: **Mar. 11, 2016**

(65) **Prior Publication Data**

US 2016/0312499 A1 Oct. 27, 2016

Related U.S. Application Data

(60) Provisional application No. 62/132,139, filed on Mar. 12, 2015.

(51) **Int. Cl.**

E05B 81/90	(2014.01)
E05B 81/14	(2014.01)
E05B 81/06	(2014.01)
E05B 81/20	(2014.01)
E05B 81/46	(2014.01)
E05B 79/20	(2014.01)
E05B 81/36	(2014.01)
E05B 83/16	(2014.01)

(52) **U.S. Cl.**

CPC ***E05B 81/90*** (2013.01); ***E05B 81/06*** (2013.01); ***E05B 81/14*** (2013.01); ***E05B 81/20*** (2013.01); ***E05B 81/46*** (2013.01); *E05B 79/20* (2013.01); *E05B 81/36* (2013.01); *E05B 83/16* (2013.01)

(58) **Field of Classification Search**

CPC E05B 81/90; E05B 81/06; E05B 81/14; E05B 81/20; E05B 81/34; E05B 81/36; E05B 81/46; E05B 79/20; E05B 83/16; Y10T 292/1047; Y10T 292/1082; Y10S 292/23

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,232,253	A		8/1993	Tamiya
5,639,130	A	*	6/1997	Rogers, Jr. E05B 81/20 292/199
5,876,074	A		3/1999	Dowling
6,053,542	A		4/2000	Ostrowski et al.

(Continued)

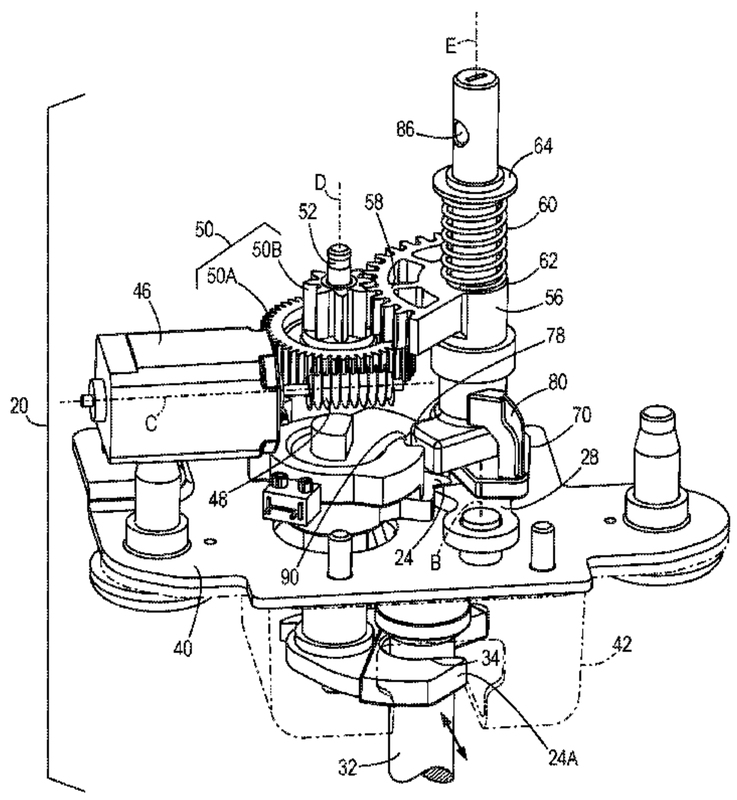
Primary Examiner — Alyson M Merlino

(74) *Attorney, Agent, or Firm* — Michael Best & Friedrich LLP

(57) **ABSTRACT**

A powered latch includes a forkbolt pivotable about a first axis between a latched position for retaining a striker and an unlatched position for releasing the striker. A detent lever is pivotable about a second axis and engageable with the forkbolt to secure the forkbolt in the latched position. The latch further includes a powered actuator and a power release lever rotatable about a third axis by the powered actuator to release the detent lever from the forkbolt. The power release lever is manually movable along the third axis from a first position to a second position. Movement of the power release lever from the first position to the second position is operable to release the detent lever.

17 Claims, 9 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

6,499,776	B2	12/2002	Takamura	
6,669,247	B2	12/2003	Swan	
6,918,275	B2	7/2005	Martus et al.	
7,232,161	B2 *	6/2007	Matsuda	E05B 81/06 292/100
7,472,628	B2	1/2009	Oberheide	
2004/0239124	A1 *	12/2004	Larsen	E05B 81/14 292/201
2006/0131893	A1 *	6/2006	Tomaszewski	E05B 81/06 292/216
2009/0236863	A1 *	9/2009	Akizuki	E05B 81/14 292/201
2012/0248796	A1	10/2012	Kurebayashi	

* cited by examiner

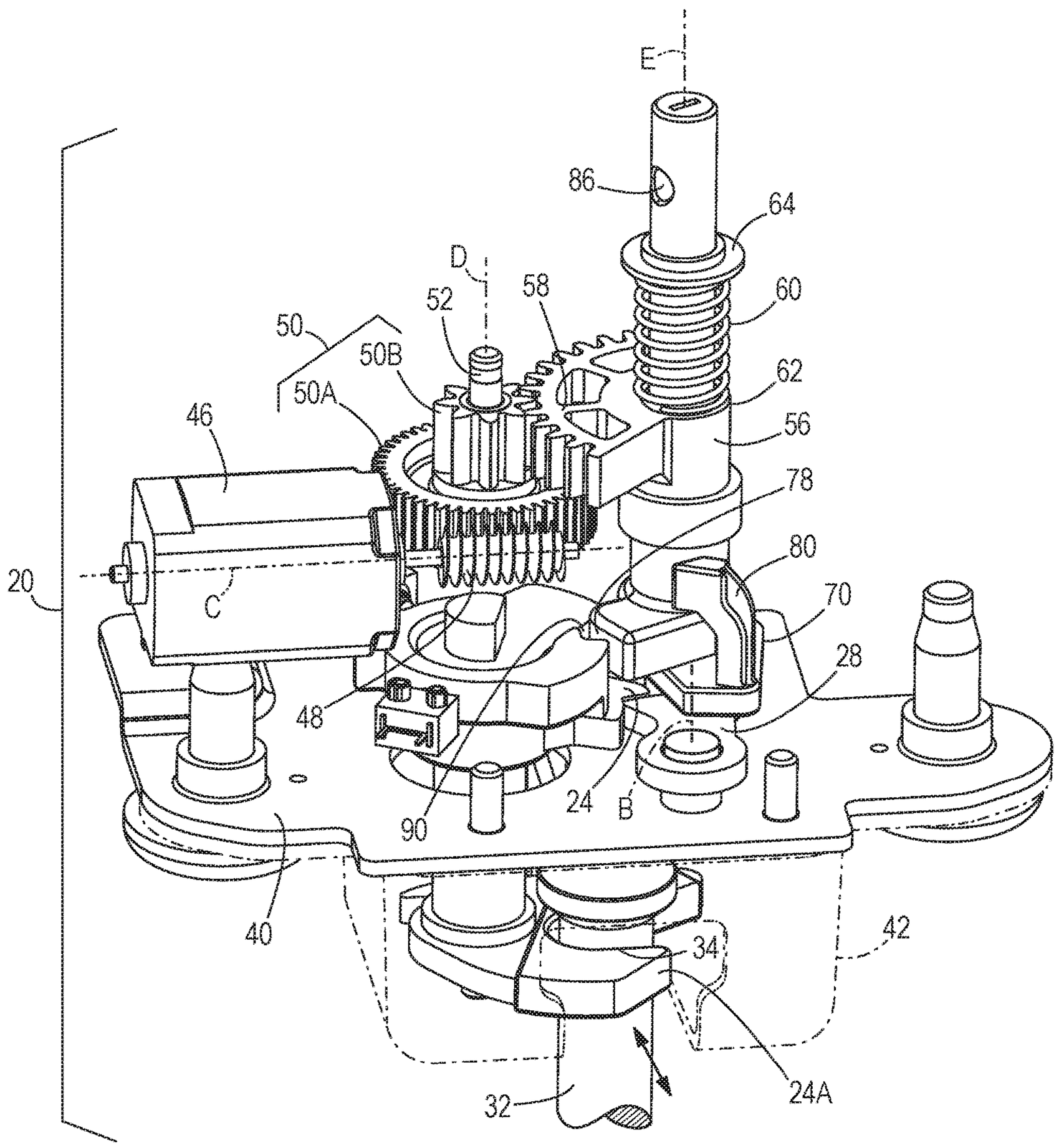

E
86
64
D
52
58
60
50
50B
62
50A
46
56
78
80
20
C
70
28
48
24
B
90
40
42
34
32
24A

FIG. 1

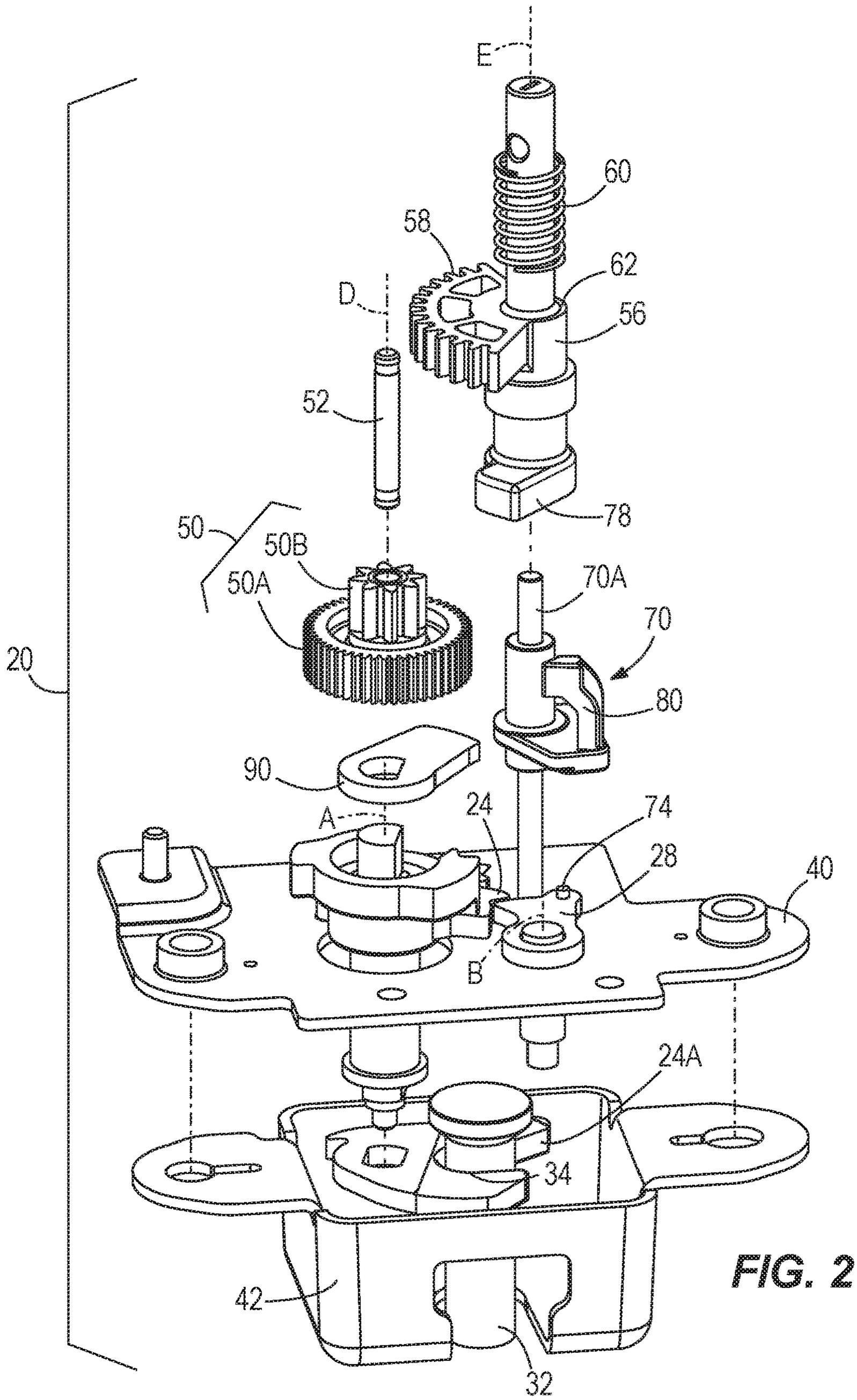

E
60
58
62
D
56
52
78
50
50B
50A
70A
70
20
80
90
A
24
74
28
40
B
24A
34
42
32

FIG. 2

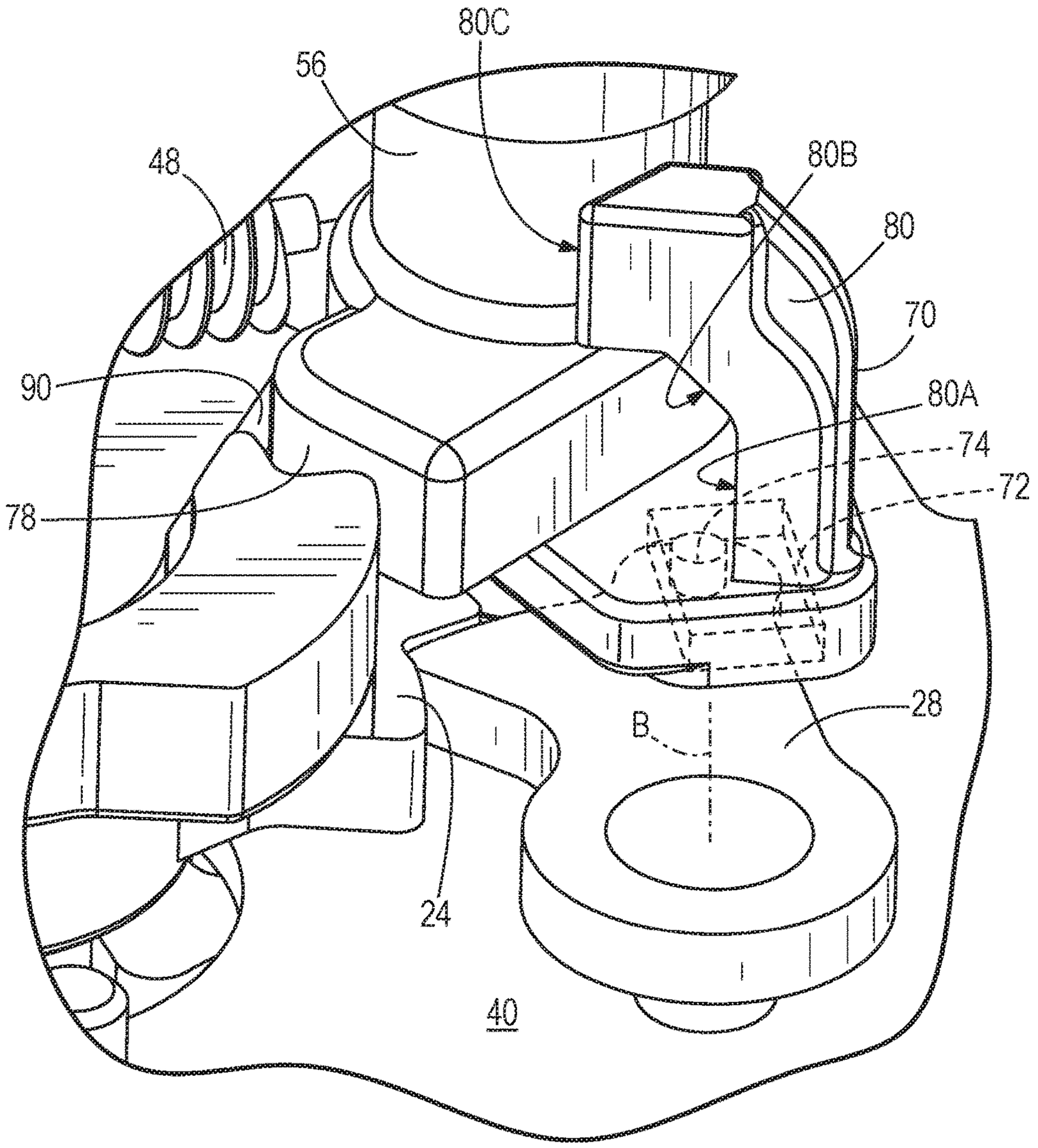


FIG. 3

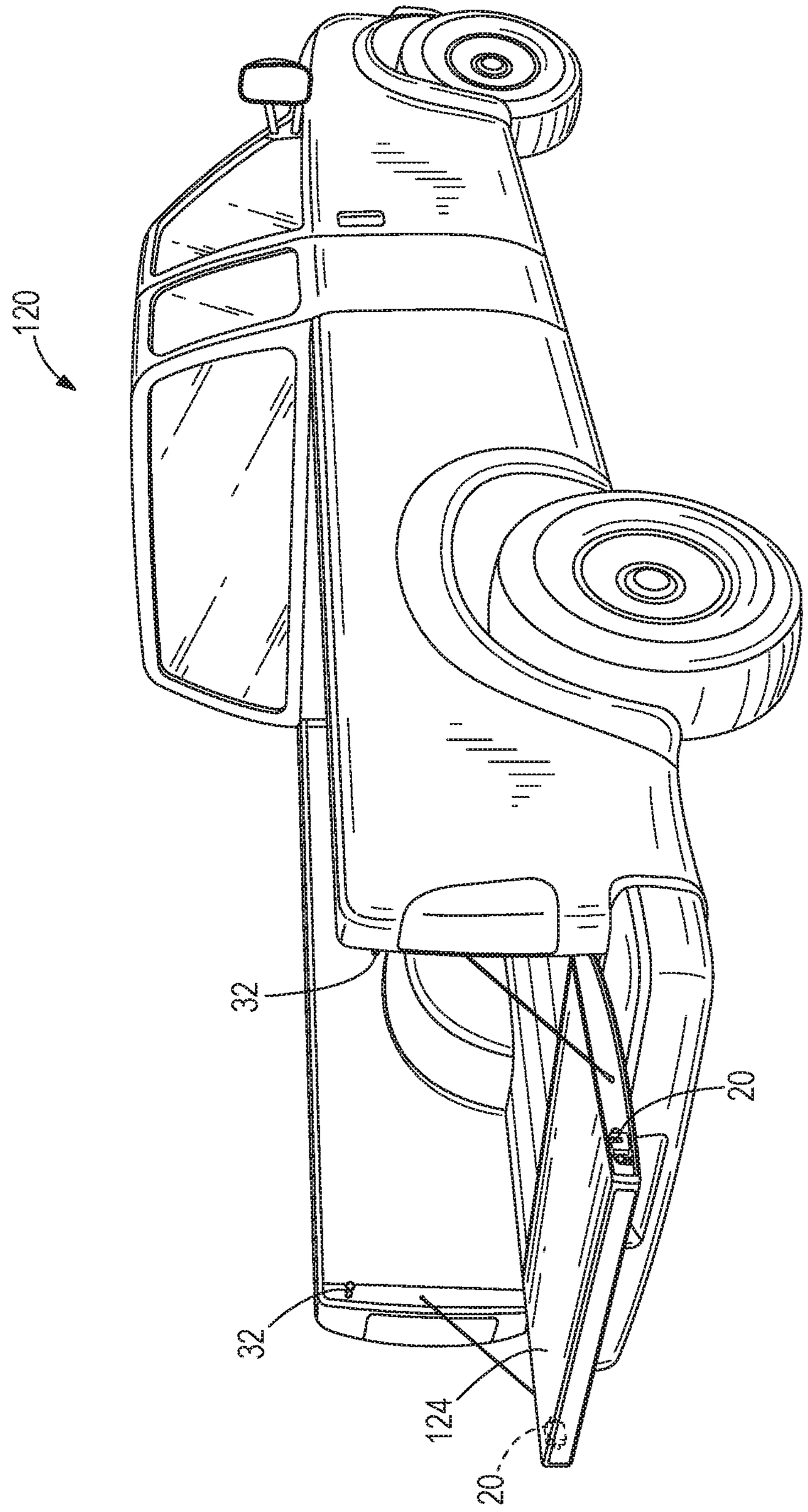


FIG. 4

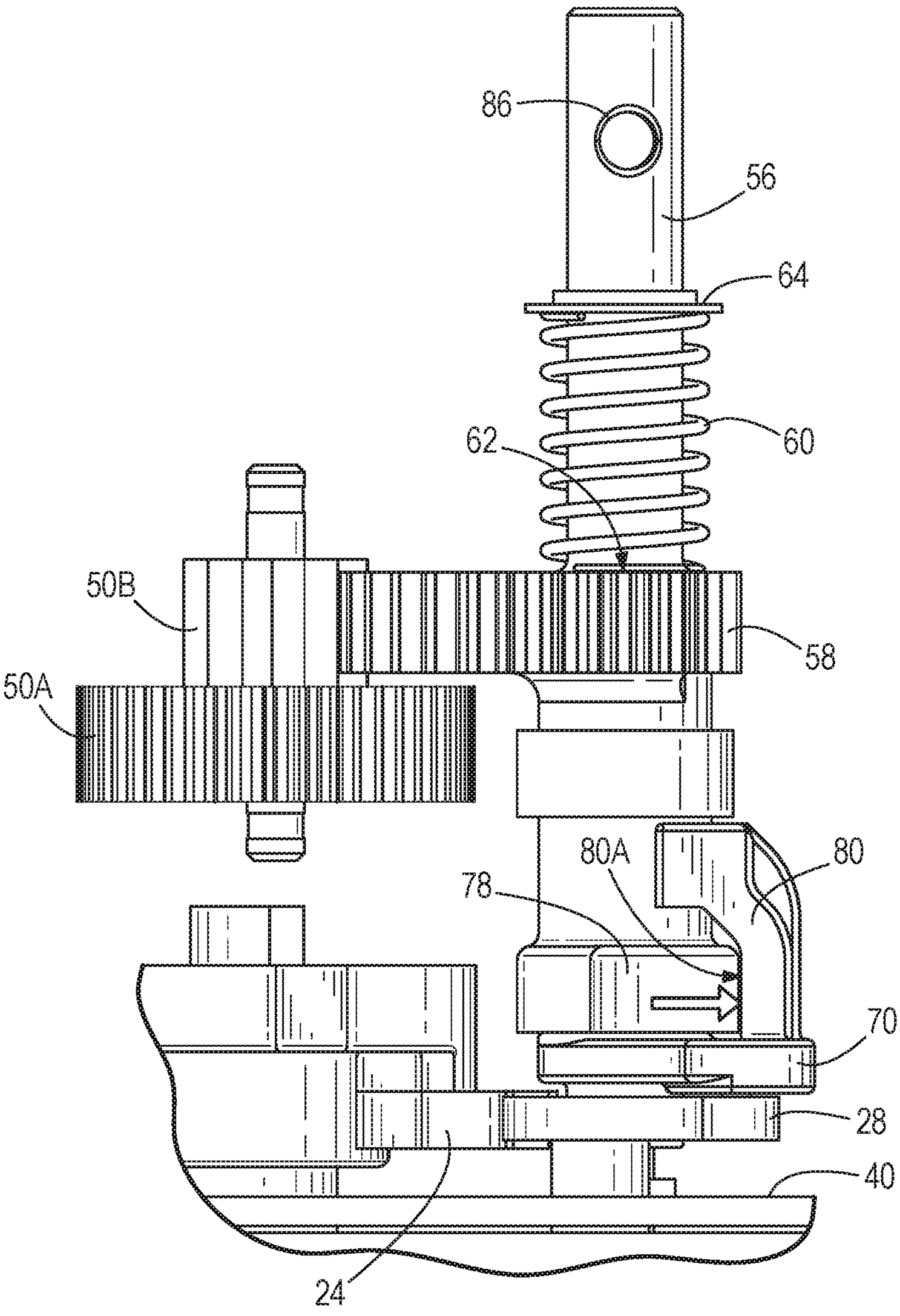


FIG. 5

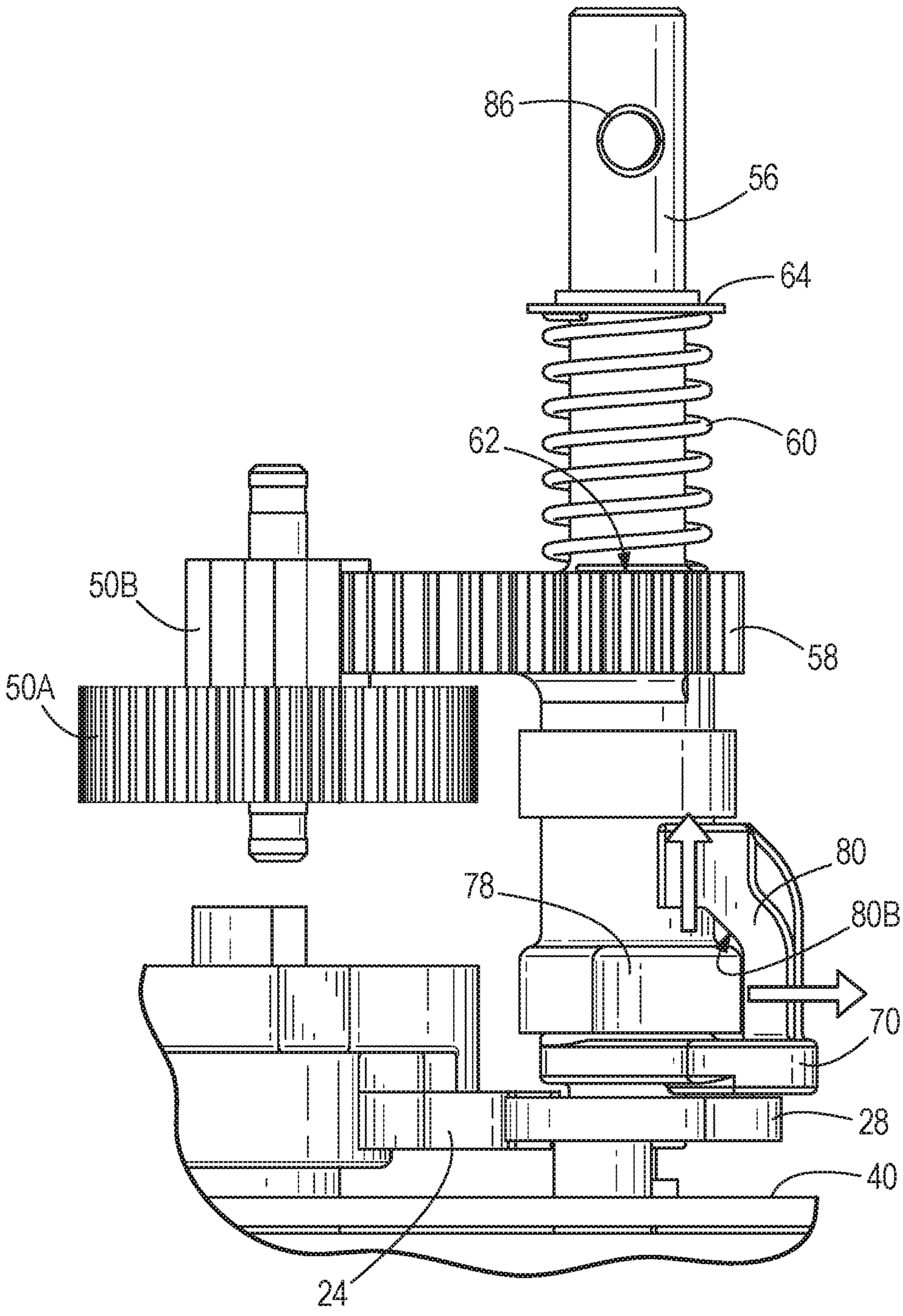


FIG. 6

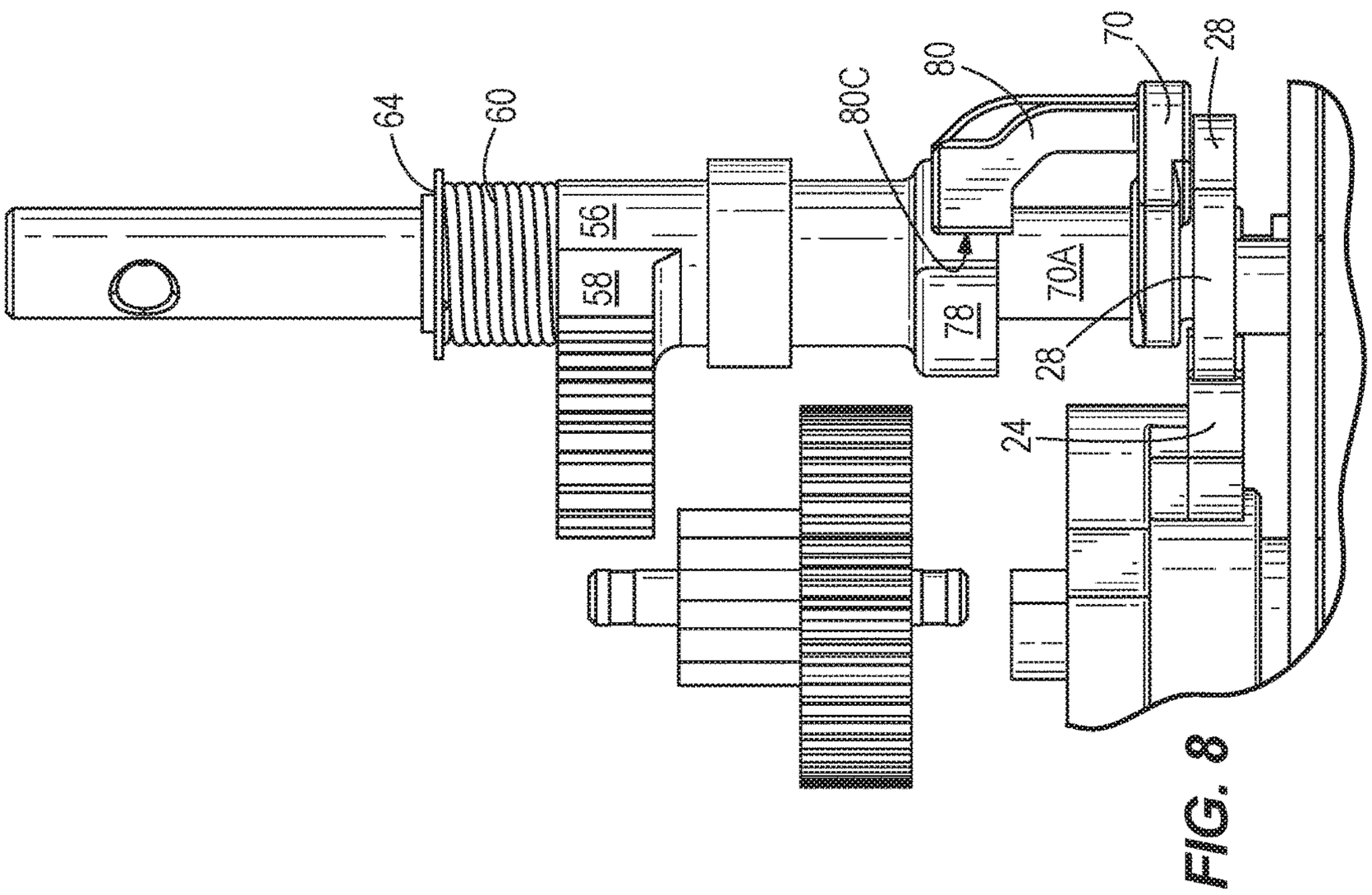

64
60
56
58
80C
80
70
28
78
70A
28
24
50B
50A

FIG. 8

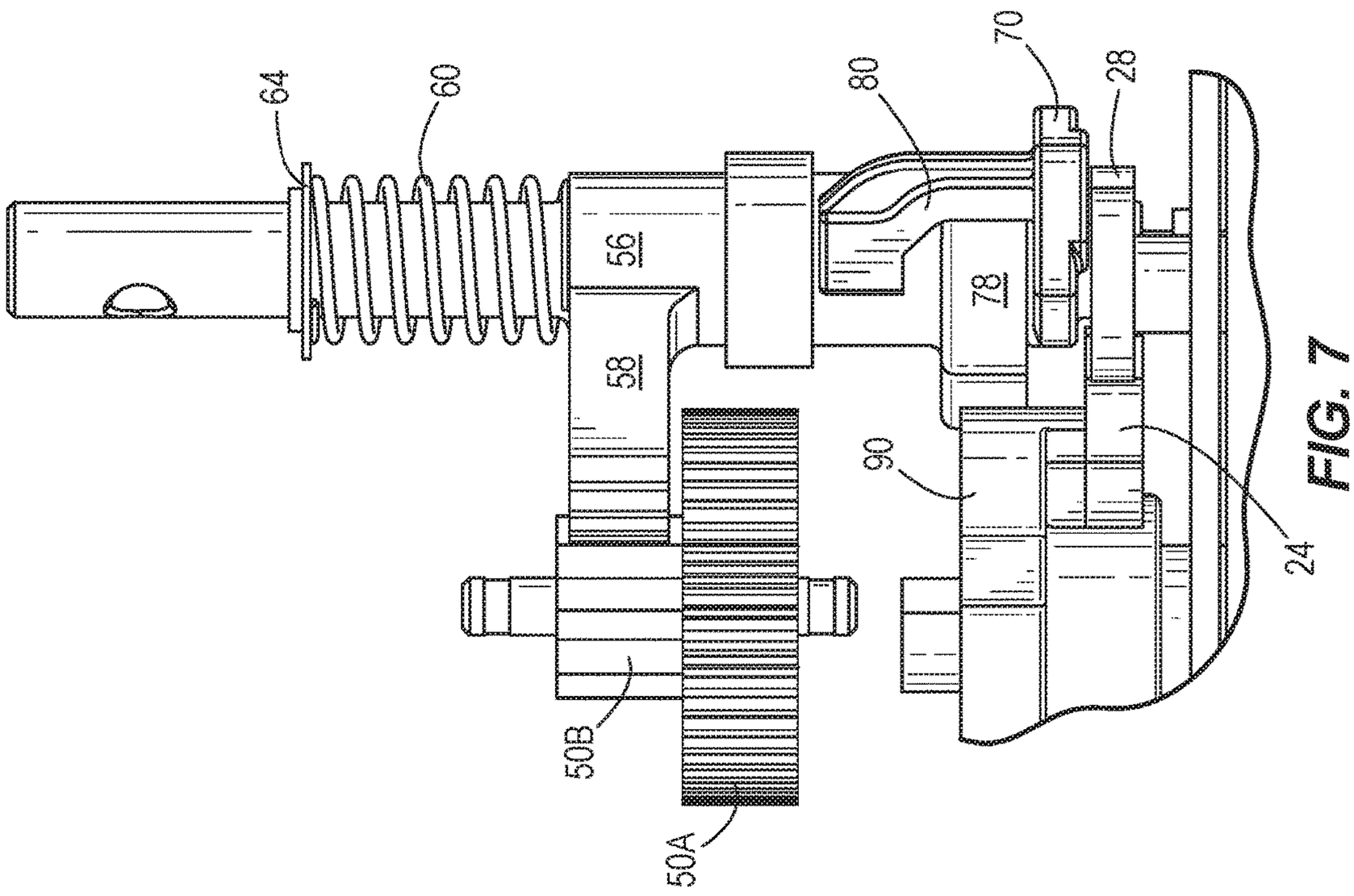

64
60
56
58
80
70
28
78
90
24
50B
50A

FIG. 7

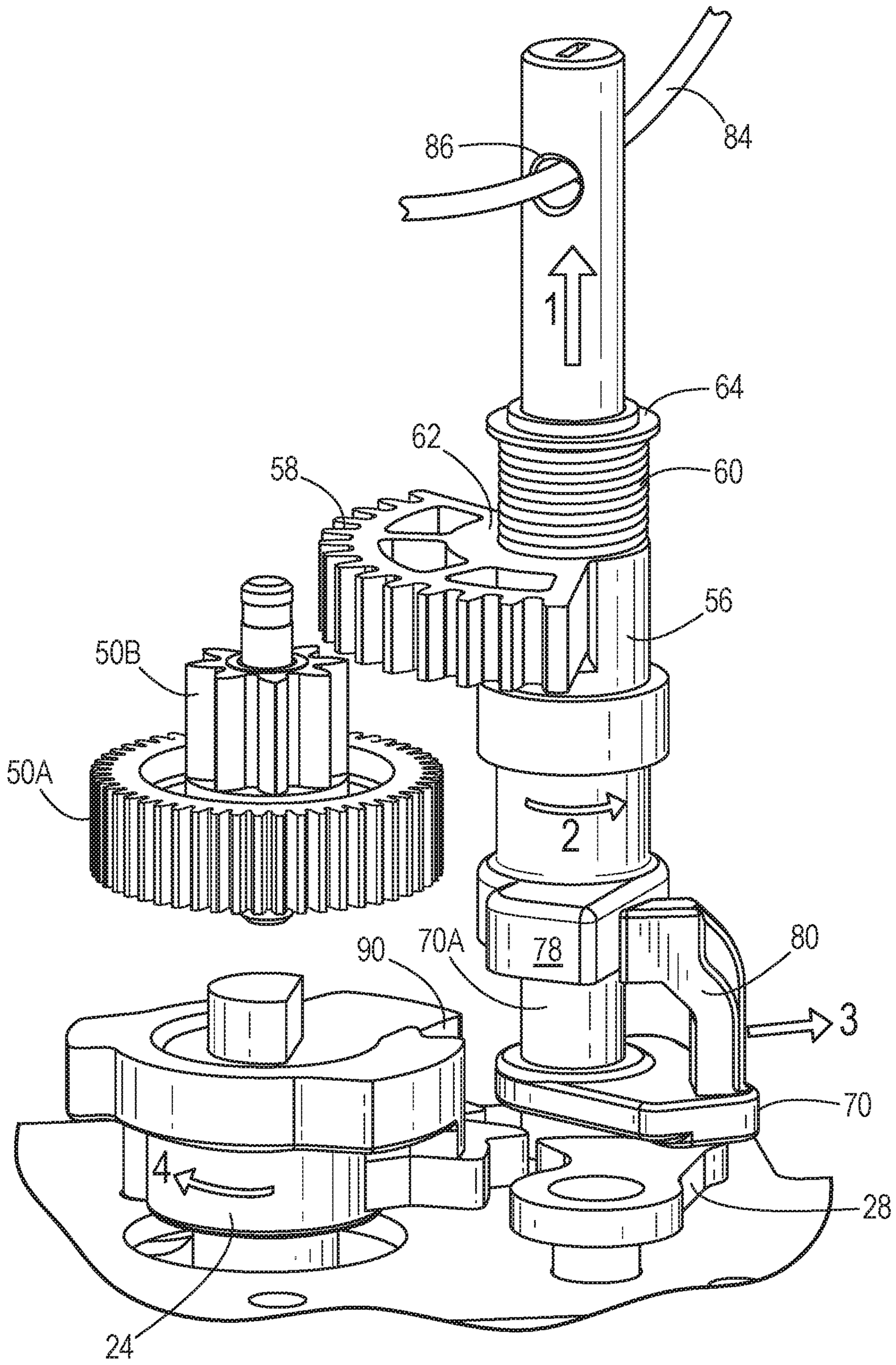


FIG. 9

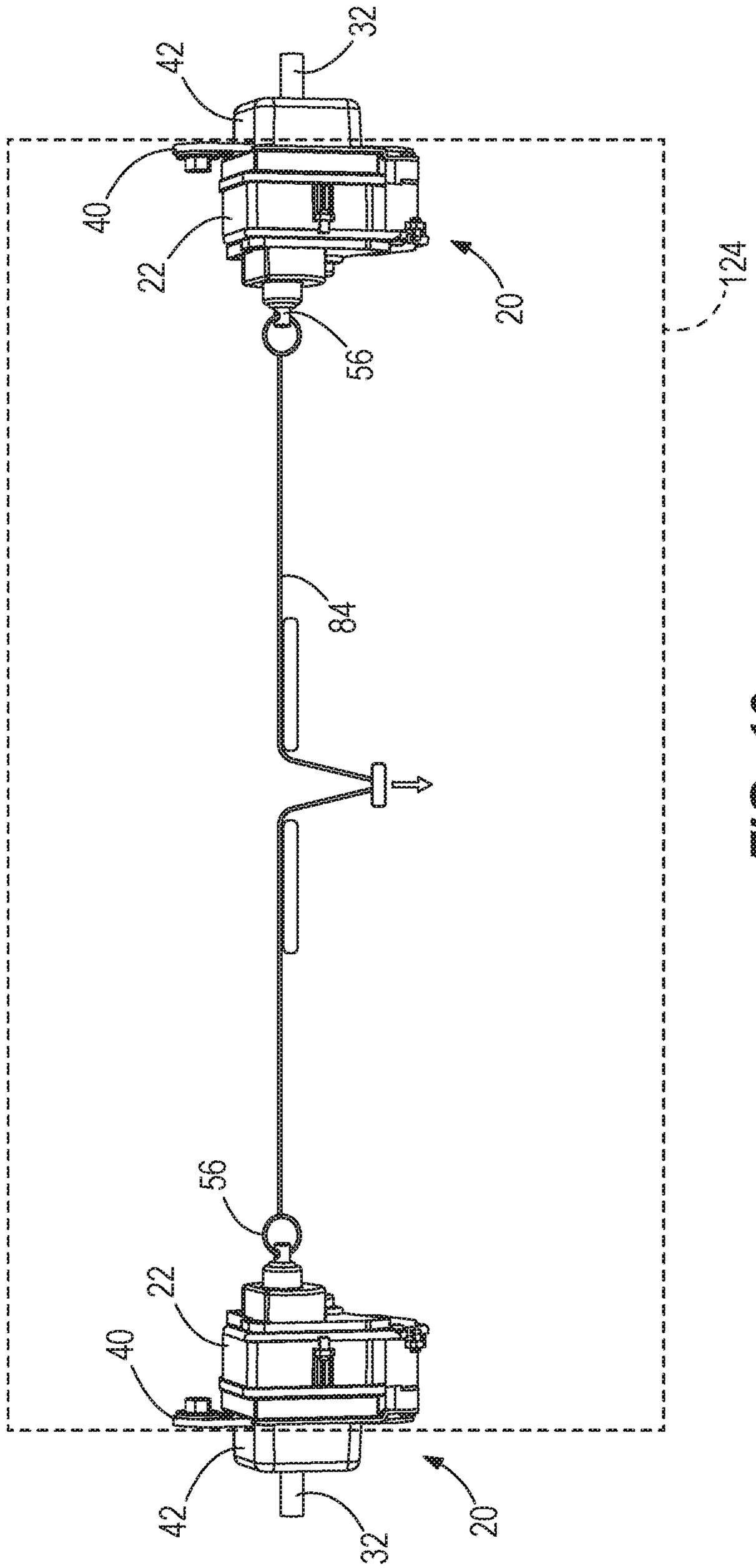


FIG. 10

POWERED LATCH MECHANISM WITH MANUAL RELEASE

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority to U.S. Provisional Patent Application No. 62/132,139, filed Mar. 12, 2015, the entire contents of which are incorporated by reference herein.

BACKGROUND

The invention relates to latch mechanisms, such as those used in automotive applications including, but not limited to, truck end gates or "tailgates", vehicular rear hatches, lift gates, trunks, and side entry doors.

Electrically-powered release latches have posed a challenge in assembly plants when it becomes necessary to open a door or gate before power is supplied to the vehicle. As such, some latches have been modified with the addition of a dedicated mechanical release device, such as a lever that can be actuated by manually pulling an attached tether. This function becomes significantly more complex when the electric release latch also provides a power cinching function for electrically closing the door or gate, as the cinching mechanism must be disengaged prior to manual release. Thus, power cinching and release latches may employ complex mechanisms for disengaging the cinching mechanism and subsequently releasing the latch, or in some cases, may require destructive disassembly of the latch to disengage the cinching mechanism.

SUMMARY

In one aspect, the invention provides a powered latch including a forkbolt pivotable about a first axis between a latched position for retaining a striker and an unlatched position for releasing the striker. A detent lever is pivotable about a second axis and engageable with the forkbolt to secure the forkbolt in the latched position. A power release lever is rotatable about a third axis by a powered actuator to release the detent lever from the forkbolt. The power release lever is manually movable along the third axis from a first position to a second position. Movement of the power release lever from the first position to the second position is operable to release the detent lever.

In another aspect, the invention provides a method of manually operating multiple latches of a vehicle during assembly. Multiple latches are provided on one of a vehicle closure and a vehicle body, each of the latches being configured to selectively engage and retain a respective striker provided on the other of the vehicle closure and the vehicle body. Each latch includes an actuator operable, when powered, to rotate a respective power release lever to release the striker from the latch. The actuators of the latches are provided with no power during an assembly phase of the vehicle. A tether is coupled to the respective power release levers of at least two of the multiple latches. The tether is pulled, during the assembly phase, to manually actuate the power release levers of the at least two latches, in a direction perpendicular to the rotational direction of each of the power release levers, to release the strikers from the respective latches.

In yet another aspect, the invention provides a powered latch including a forkbolt pivotable about a first axis between a latched position for retaining a striker and an unlatched position for releasing the striker. A detent lever is pivotable about a second axis and engageable with the forkbolt to secure the forkbolt in the latched position. A powered actuator is operable to rotate a power release lever about a third axis for releasing the detent lever from the forkbolt. The power release lever is movable along the third axis to a manual release position in which the power release lever is decoupled from the powered actuator, the movement to the manual release position simultaneously actuating the releasing of the detent lever.

Other aspects of the invention will become apparent by consideration of the detailed description and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a latching assembly according to one embodiment of the present invention.

FIG. **2** is an exploded assembly view of the latching assembly of FIG. **1**.

FIG. **3** is a detail perspective view illustrating the engagement between a detent and an intermittent lever operable to actuate the detent to release the latch assembly.

FIG. **4** is a rear perspective view of a pick-up truck including latch assemblies according to one aspect of the invention.

FIG. **5** is a front view of the latch assembly of FIG. **1** during normal powered release operation.

FIG. **6** is a front view of the latch assembly of FIG. **1** during manual release operation, for example, at the assembly plant prior to associating power with the latch assembly.

FIG. **7** is a front view of the latch assembly of FIG. **1** during a jammed cinching operation.

FIG. **8** is a front view of the latch assembly of FIG. **1** during release from the jammed cinching operation.

FIG. **9** is perspective view of the latch assembly of FIG. **1**, illustrating the sequence of events for releasing from the jammed cinching operation and releasing the detent.

FIG. **10** is a perspective view of a coupling between two of the latch assemblies of FIG. **1** to provide mutual manual release with a tether member.

DETAILED DESCRIPTION

Before any embodiments of the present invention are explained in detail, it is to be understood that the invention is not limited in its application to the details of construction and the arrangement of components set forth in the following description or illustrated in the following drawings. The invention is capable of other embodiments and of being practiced or of being carried out in various ways.

FIGS. **1** and **2** illustrate a latch assembly, or simply, latch **20** which may be used to selectively hold shut a closure (e.g., a vehicle entry door, hatch, tailgate or end gate, decklid or trunk, and the like). A housing **22** (see FIG. **10**) of the latch **20** is removed to illustrate the internal components. The latch **20** includes a catch, referred to herein as forkbolt **24** and a pawl, referred to herein as detent lever **28**. The forkbolt **24** is rotatable about a first axis A to selectively engage and trap a striker **32**, and the detent lever **28** is positioned adjacent the forkbolt **24** and is pivotable about a second axis B parallel with the first axis A of the forkbolt **24**. The detent lever **28** has an engagement surface configured to engage one or more corresponding engagement surfaces of the forkbolt **24** to retain the forkbolt **24** in one or more latched positions, retaining the striker **32** as shown in FIG. **1**. These may include a half-latched or safety-latched position and a fully-latched position. In the case of automotive closures

and the like, the striker **32** may be fixed to a body (e.g., door frame, truck bed, or pillar), and the latch **20** may be mounted at the edge of the particular closure that is swingable or slidable relative to the body, although these positions of the striker **32** and latch **20** can be reversed in other embodiments. Although the illustrated embodiment includes a separate "primary" forkbolt **24**A engaged for rotation with the forkbolt **24** and provided with a groove **34** to directly receive the striker **32**, the latch **20** can be provided with a single forkbolt that directly engages both the striker **32** and the detent lever **28** (e.g., the forkbolt **24** and the primary forkbolt **24**A as shown can be provided integrally as a single piece). As shown in FIGS. **1** and **2**, working components of the latch **20** can be supported by a backing plate **40**. For example, the forkbolt **24** and the detent lever **28** are rotatably supported by the backing plate **40**. Furthermore, a frame plate or latch frame **42** is coupled to the backing plate **40** and provided to enclose or surround the portion of the forkbolt (e.g., primary forkbolt **24**A) having the groove **34** which engages the striker **32**. An opening in the latch frame **42** allows entry and exit of the striker **32** generally along the path shown by the double arrow at the bottom of FIG. **1**.

The closure is opened by releasing the detent lever **28** from the engaged position of FIG. **1** so that the forkbolt **24** can rotate about the first axis A to free the striker **32**. When the closure is moved toward the closed position, the striker **32** is forced into the groove **34**, thereby rotating the forkbolt **24** toward the latched position of FIG. **1**. The detent lever **28** can be spring-biased into retaining engagement with the forkbolt **24**.

As described in further detail below, the latch **20** is a powered latch assembly. As such, the detent lever **28** can be released or disengaged from the forkbolt **24** by a powered (e.g., electric) actuator, such as the illustrated electric motor **46**. The provision of a powered actuator provides that releasing the latch **20** can be accomplished in a normal mode of operation, without applying human power, although human-applied power may be utilized to release the latch in another mode of operation. The motor **46** has an output member or gear, which is a worm gear **48** in the illustrated construction, although other drive arrangements are optional. The motor **46** drives the worm gear **48** to rotate about an axis C. The worm gear **48** is in meshed driving engagement with a first toothed portion **50**A of a gear wheel **50**. The gear wheel **50** is rotatable about an axis D, which is perpendicular to the axis C of the motor **46** and the worm gear **48**. The gear wheel **50** further includes a second toothed portion **50**B which is integral with the first toothed portion **50**A or is otherwise coupled for rotation therewith. The gear wheel **50** is supported on a shaft **52** as shown in FIGS. **1** and **2**.

The second toothed portion **50**B of the gear wheel **50** is in meshed driving engagement with a power release lever **56**. As shown in the illustrated construction, the power release lever **56** can include a gear portion **58** that is selectively meshed with the second toothed portion **50**B of the gear wheel **50**. The power release lever **56** is rotatable about an axis E. The axis E of the power release lever **56** is parallel with the axis D of the gear wheel **50** and perpendicular to the axis C of the motor **46**, but alternate arrangements are optional. As described in further detail below, the power release lever **56** is also movable to translate along the axis E in a particular operational mode to disengage the gear portion **58** from the second toothed portion **50**B of the gear wheel **50**, thus severing the driving engagement between the motor **46** and the power release lever **56**. Translation of the power release lever **56** along the axis E can refer to translation of the power release lever **56** relative to the gear wheel **50** and/or the backing plate **40**. From the engaged position of FIG. **1**, the power release lever **56** is movable vertically upward as viewed in the drawing along the axis E, away from the backing plate **40**, against the bias of a bias member **60**. The bias member **60** in the illustrated construction is a coil spring that extends around the power release lever **56**. The bias member **60** abuts a shoulder **62** of the power release lever **56** on one end, and abuts a seat **64** on an opposite end. The seat **64** can be fixed to, or provided by, a portion of the housing **22** (FIG. **10**). For example, the seat **64** can be provided by a thrust bearing fitted to an opening in the housing **22**. The seat **64** allows relative movement of the power release lever **56** along the axis E, during which movement the bias member **60** is compressed. The stored energy in the bias member **60** returns the power release lever **56** to the engaged position of FIG. **1** when external forces on the power release lever **56** are removed.

When actuated to perform a power release function, the power release lever **56** drives the release of the detent lever **28** through an additional member, or intermittent lever **70** as shown in FIG. **5**. However, the power release lever **56** and the detent lever **28** are directly engaged without an intermediate member in other constructions, not illustrated. The intermittent lever **70** has a shaft portion **70**A extending generally along the axis E and fitted into a complementary bore in the power release lever **56**, such that the intermittent lever **70** is rotatable about the axis E, and may rotate relative to the power release lever **56**. It should be noted that other arrangements and configurations are optional, and particularly, the intermittent lever **70** may be arranged for translational (non-pivoting) movement, or a combination of translational and pivoting movement in other constructions. A slip joint is provided between the intermittent lever **70** and the detent lever **28**. The slip joint can be provided at a surface of the intermittent lever **70** remote from (i.e., facing away from) the power release lever **56**. In the illustrated construction, the slip joint is provided by a pocket or recess **72** formed in the intermittent lever **70** and a pin or post **74** on the detent lever **28** that is received by the recess **72** with clearance. Although the slip joint allows limited relative movement, it provides a connection for engaging the detent lever **28** to a released position, away from the forkbolt **24**. It is noted that the recess **72** can be a blind recess, or alternately, may extend as an opening through a portion of the intermittent lever **70**. Actuation of the intermittent lever **70** for the releasing of the detent lever **28** is provided by contact from a cam **78** provided on the power release lever **56** as the power release lever **56** is rotated about the axis E by power from the motor **46** through the gear train. The cam **78** of the power release lever **56** contacts a first portion or follower surface **80**A of a cam follower **80** of the intermittent lever **70**. The cam follower **80** can be provided as a contoured arm with multiple portions or cam follower surfaces, as discussed in detail below. FIG. **5** illustrates the normal operation of a powered release function utilizing the cam **78** of the power release lever **56** to actuate the first follower surface **80**A of the intermittent lever **70**. The power release lever **56** rotates from a first, or "home", rotational orientation (FIG. **5**) about the axis E in a release direction to engage the first follower surface **80**A for power releasing.

Although the latch **20** provides a powered release function as described above, an additional feature incorporated directly into the power release lever **56** provides a manual release function. The manual release function can be utilized during the assembly phase (e.g., where the latch **20** is provided on a vehicle closure and the vehicle is undergoing

initial factory assembly at an assembly plant) where power (e.g., electric power) may not yet be established to the latch **20**. However, the manual release function may also be available at other times, due to other circumstances. For example, a vehicle operator or service technician may utilize the manual release function where vehicle battery power is too low for normal powered actuation, or power from the battery is not reaching the latch **20**, or another malfunction has occurred which inhibits the normal powered release of the latch **20**.

As shown in FIG. **6**, the manual release function is accomplished by a movement of the power release lever **56** from a first position, referred to herein as a home position to a second position, referred to herein as a manual release position. The movement can be unidirectional and different from rotation about the axis E of the power release lever **56**. For example, the unidirectional movement can be a movement along the axis E in a direction (e.g., away from the detent lever **28**) that causes engagement between the cam **78** and a second portion or follower surface **80**B of the cam follower **80**. Contact between the cam **78** and the second follower surface **80**B drives movement of the intermittent lever **70** in a releasing direction which operates to release the detent lever **28**, thus allowing unlatching of the forkbolt **24** from the striker **32**. In the illustrated construction, the engagement between the cam **78** and the second follower surface **80**B drives rotational movement of the intermittent lever **70** about the axis E that is shared by the power release lever **56** and the intermittent lever **70**. However, other arrangements are optional as mentioned above, which may result in other movement characteristics of the intermittent lever **70** during manual release. Engagement between the cam **78** and the second follower surface **80**B as described above to release the detent lever **28** is possible when the power release lever **56** is in the first or home rotational orientation about the axis E such that the cam **78** is aligned with the second follower surface **80**B for engagement when the power release lever **56** moves along the axis E to the manual release position. This is shown in FIG. **6** for example.

To aid in the actuation of the power release lever **56** for the manual release function, a tether **84** (FIGS. **9** and **10**) may be coupled to the power release lever **56**. In one construction, the power release lever **56** is provided with an aperture **86** at a remote end for attaching the tether **84**. FIG. **6** illustrates the normal operation of a manual release function utilizing the cam **78** of the power release lever **56** to actuate the second follower surface **80**B of the intermittent lever **70**. It is also noted that, upon movement of the power release lever **56** along the axis E for the manual release function, the meshing engagement between the power release lever **56** and the gear wheel **50** (and thus, the motor **46**) is severed by introducing an offset between the toothed portion **50**B and the gear portion **58** of the power release lever **56**.

In some constructions, the latch **20** may further be configured to provide powered cinching of the striker **32**, whereby the motor **46** is operated to apply a powered cinching force to the forkbolt **24** to pull or cinch the striker **32** toward a fully latched position. For this purpose, the motor **46** may operate in a direction opposite a direction used for power releasing, and the torque from the motor **46** is applied through the gear wheel **50** to the power release lever **56** such that the cam **78** engages the surface of a cam follower **90**. As illustrated, the cam follower **90** is formed as a member separate from the forkbolt **24**, but is coupled for co-rotation with the forkbolt **24** (e.g., via a complementary fitting of non-circular shapes). In other constructions, the cinching cam follower **90** may be directly integrated into the forkbolt **24**. The cinching action may initiate automatically (e.g., by a microprocessor or other controller) in response to the striker **32** being brought into initial latching engagement with the forkbolt **24** (e.g., primary forkbolt **24**A). The controller then actuates the motor **46** to apply the cinching force to complete the latching operation as described above. For cinching action between the cam **78** and the cinching cam follower **90**, the power release lever **56** is rotated about the axis E in a cinching direction away from the first rotational orientation. This is shown in FIG. **7** for example.

Although the cinching function may be highly reliable, there may inevitably be circumstances in which a jammed condition occurs. These may include the lack of sufficient electrical power to the motor **46** and/or obstruction by a foreign object. In such circumstances, the motor **46** resists being back-driven and holds its position, and the latch **20** must be un-jammed or reset prior to completing further operations. The manual release of a jammed cinch mechanism is a third function of the power release lever **56**. Similar to the manual release function which releases the latch **20** from a closed state, movement of the power release lever **56** along the axis E is utilized to release a jammed cinch mechanism. As mentioned above, the driving connection through the gear train is severed by sufficient movement of the power release lever **56** along the axis E. This is the first step in resetting the latch **20** from a jammed cinching state as shown in FIGS. **7-9**. The engagement between the cam **78** and the cinching cam follower **90** is also severed by the axial movement of the power release lever **56** as shown in FIG. **8**. Upon achieving this position, manual rotation of the power release lever (in the direction of arrow **2** in FIG. **9**) is carried out so that the cam **78** engages a third portion or follower surface **80**C of the cam follower **80** of the intermittent lever **70**. Further rotation of the power release lever **56** results in movement (e.g., rotation) of the intermittent lever **70** for releasing the detent lever **28** from the forkbolt **24** to reset the latch **20**. Although the tether **86** utilized for manually releasing the latch **20** may be removed during final assembly (and thus, not available to the operator or service technician), the unjamming sequence described above may be accomplished by removing a body portion, trim panel, or cover to expose the remote end of the power release lever **56** and subsequently manipulating the power release lever **56** manually (e.g., by hand with or without a tool, such as a screwdriver, wrench, or pliers).

Once the power release lever **56** is disengaged, the bias member **60** resets the power release lever **56** back to the operable position of FIG. **1**, and normal operation of the latch **20** may resume. Thus, there is no need for performing any destructive acts upon the latch **20**, or even partial disassembly of the fundamental elements of the latch **20** to resolve the condition of a jammed cinching operation and reset the latch **20** back into a complete and operational state, as the latch **20** is reset immediately upon return of the power release lever **56** to the position of FIG. **7**. It should be understood that manual operation of the power release lever **56** as discussed herein refers to manipulation carried out by means other than the designated powered actuator (e.g. motor **46**) of the latch **20**, including direct or indirect manipulation by human hands.

In a construction where no intermittent lever **70** is provided, it will be understood that features of the intermittent lever **70**, such as the cam follower **80** including the cam follower surfaces **80**A, **80**B, **80**C can be integrated or otherwise incorporated into the detent lever **28**. Further-

more, it will be appreciated that each cam follower surface **80**A, **80**B, **80**C may represent a separate cam follower, whether integrated into the unitary contoured arm of the cam follower **80** as shown, or provided as individualized features as separately contemplated herein.

With specific reference to FIGS. **4** and **10**, one particular vehicle application of the latch **20** is discussed. As shown in FIG. **4**, a pickup truck **120** is provided with a cargo bed closable via an end gate **124** pivotally mounted to the cargo bed in a conventional manner. An opening of the cargo bed is provided with a striker **32** at each side. A latch **20** according to the above description is provided at each corresponding side of the end gate **124**, so as to be selectively engageable with the respective striker **32**. Thus, the two latches **20** cooperate together to selectively hold the end gate **124** in a securely closed position with respect to the cargo bed. As noted above, the strikers **32** may be provided on the end gate **124**, and the latches **20** may be provided on the cargo bed, in an alternate construction. During the vehicle assembly phase when power to the latch **20** is not provided (e.g., no voltage source connected to the motor **46**), the tether **84** may be coupled to the respective power release levers **56** of both latches **20** on the end gate **124**, and a worker can manipulate both latches **20** to perform the manual release function with a single input action (e.g., one pull of the tether **84**). Thus, the end gate **124** can be released or unlatched from the cargo bed in a simple, manual operation of the latch **20**, despite the latch **20** being provided as a powered latch. In some constructions, the tether **84** is removed upon final assembly, whereby the latches **20** are associated with the corresponding power source (e.g., vehicle battery). In other constructions, the tether **84** remains with the vehicle but is concealed. If removed from the vehicle, the tether **84** may be re-used during assembly of another vehicle.

The invention claimed is:

1. A powered latch comprising:

a forkbolt pivotable about a first axis between a latched position for retaining a striker and an unlatched position for releasing the striker;

a detent lever pivotable about a second axis and engageable with the forkbolt to secure the forkbolt in the latched position;

a powered actuator; and

a power release lever rotatable about a third axis by the powered actuator to release the detent lever from engagement with the forkbolt, the power release lever further being manually movable from a first position along the third axis to a second position along the third axis,

wherein the manual movement of the power release lever from the first position along the third axis to the second position along the third axis is operable to release the detent lever from engagement with the forkbolt.

2. The powered latch of claim **1**, wherein the powered actuator is operable in a first mode of operation to release the detent lever from engagement with the forkbolt, and is further operable in a second mode of operation to cinch the forkbolt to the latched position.

3. The powered latch of claim **2**, wherein the power release lever includes a cam operable to drive the detent lever to release from engagement with the forkbolt in the first mode of operation of the powered actuator.

4. The powered latch of claim **3**, wherein the cam is operable to cinch the forkbolt to the latched position in the second mode of operation of the powered actuator.

5. The powered latch of claim **2**, wherein the power release lever includes a cam operable in a cinching direction on a cinching cam follower to cinch the forkbolt to the latched position in the second mode of operation of the powered actuator, and wherein the manual movement of the power release lever to the second position from the first position is operable to offset the cam from the cinching cam follower in a direction perpendicular to the cinching direction.

6. The powered latch of claim **5**, wherein the power release lever further includes a gear portion that is selectively meshed with a toothed portion of a gear wheel driven by the powered actuator, and wherein the gear portion of the power release lever is disengaged from the toothed portion of the gear wheel when the power release lever is in the second position.

7. The powered latch of claim **1**, further comprising an intermittent lever operable by the power release lever and operable on the detent lever to release the detent lever from engagement with the forkbolt when the power release lever is manually moved from the first position to the second position.

8. The powered latch of claim **7**, wherein the intermittent lever includes a cam follower operable by a cam of the power release lever during the manual movement of the power release lever to the second position.

9. The powered latch of claim **8**, wherein the cam follower is operable by the cam in a first rotational orientation of the power release lever, and wherein the intermittent lever includes an additional cam follower operable by rotation of the cam to release the detent lever from engagement with the forkbolt only after the power release lever is manually moved to the second position.

10. A powered latch comprising:

a forkbolt pivotable about a first axis between a latched position for retaining a striker and an unlatched position for releasing the striker;

a detent lever pivotable about a second axis and engageable with the forkbolt to secure the forkbolt in the latched position;

a power release lever; and

a powered actuator operable to rotate the power release lever, through a coupling of the power release lever to the powered actuator, about a third axis for releasing the detent lever from engagement with the forkbolt,

wherein the power release lever is manually movable from a first position along the third axis to a second position along the third axis defining a manual release position in which the power release lever is decoupled from the powered actuator, the movement to the manual release position simultaneously actuating the manual releasing of the detent lever from engagement with the forkbolt.

11. The powered latch of claim **10**, wherein the powered actuator is operable in a first mode of operation to release the detent lever from engagement with the forkbolt, and is further operable in a second mode of operation to cinch the forkbolt to the latched position.

12. The powered latch of claim **11**, wherein the power release lever includes a cam operable to drive the detent lever to release from engagement with the forkbolt in the first mode of operation of the powered actuator.

13. The powered latch of claim **12**, wherein the cam is operable to cinch the forkbolt to the latched position in the second mode of operation of the powered actuator.

14. The powered latch of claim **11**, wherein the power release lever includes a cam operable in a cinching direction

on a cinching cam follower to cinch the forkbolt to the latched position in the second mode of operation of the powered actuator, and wherein the manual movement of the power release lever to the manual release position is operable to offset the cam from the cinching cam follower in a direction perpendicular to the cinching direction.

15. The powered latch of claim **10**, further comprising an intermittent lever operable by the power release lever and operable on the detent lever to release the detent lever from engagement with the forkbolt when the power release lever is manually moved to the manual release position.

16. The powered latch of claim **15**, wherein the intermittent lever includes a cam follower operable by a cam of the power release lever during the manual movement of the power release lever to the manual release position.

17. The powered latch of claim **16**, wherein the cam follower is operable by the cam in a first rotational orientation of the power release lever, and wherein the intermittent lever includes an additional cam follower operable by rotation of the cam to release the detent lever from engagement with the forkbolt only after the power release lever is manually moved to the manual release position.

* * * * *